

## TELECOMMUNICATIONS &amp; ICT

# Shortages Driver

Technological advances major cause of telecoms, ICT skills dearth

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**T**echnology had emerged as the single biggest driver of the global skills shortage in the increasingly competitive global environment, said Landelahni Business Leaders CEO **Sandra Burmeister** at the recent unveiling of the '2009 Telecommunications Sector Survey' report.

She added that this was exacerbated in the telecommunications and information technology (IT) sectors, which were seen as a spur to economic growth. A simultaneous convergence of voice, data and video, combined with global liberalisation measures, had produced 15 years of unprecedented growth in mobile and data communications.

In South Africa, the telecoms sector was estimated to be worth about R99-billion and was growing at 14% a year. It contributed about 7% to the country's gross domestic product, equalling the mining industry.

There was an inadequate trickle of suitably qualified candidates entering the sector, which, she noted, had resulted in industry players relying heavily on internal training to develop the skills the companies needed.

Even though the telecommunications industry was far ahead of the entire industry average regarding black employment equity at senior executive levels, it lagged considerably when it came to gender equity. Further, it had erratic skills development and training records.

Some 44% of top management were black, compared with the all-industry average of 24,2%. In senior management, 37,3% were black, compared with the 32,4% all-industry average.

When it came to middle management and professional levels,

telecoms had a profile similar to those of other industries, while the sector lagged in skilled technical staff.

However, in employment equity at top management levels, the public sector (including Telkom), at 70%, was doing substantially better than the private sector, at 38%.

Unfortunately, this position was reversed when it came to skilled technical staff, with the private sector at 70,4% and the public sector at only 48,2%.

The industry lagged in gender equity, particularly when it came to skilled technical levels, with women making up some 32,7% compared with other industries at 39,3%.

"There are significantly fewer women in technical and engineering positions across all disciplines and industries, not just in telecommunications, largely because of the small number of technically qualified staff available," added Burmeister.

Private-sector telecoms were doing better than government telecoms when it came to gender equity at all levels, particularly at the skilled technical level where women made up 42,5% of the staff, against the public sector's 24%.

"Gender equity, rather than employment equity, is clearly the area that requires focus. More work is required at the professional and skilled levels to create a pipeline for sustainable business growth in the future," she stated.

## Skills Development

As a result of skills development that was taking place across all staffing levels, a great deal of cross-pollination took place between the IT and telecoms



**SANDRA BURMEISTER**

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sectors. The industry's reliance on on-the-job training and mentorship, and the focus on short courses together with vendor certification "show just how fast technology is moving and the critical nature of constant upskilling in the sector – perhaps more so than any other industry", according to Burmeister.

She further explained that, from 1996 to 2007, university enrolments in computer science and data processing degrees totalled 56 292, of which only 17 707 (31,4%) graduated. However, over the past three years, the graduation rate dropped to a lower 11%, compared with the international average of 25%.

National diplomas in information and communication technology (ICT) disciplines showed a steady rate of growth between 1996 and 2004; however, computer science, electrical and electronic engineering degrees and diplomas showed only a marginal increase in graduates over the past three years.

The number of black ICT graduates showed the highest growth, totalling almost 400% since 1997, while the number of women ICT graduates doubled.

Under the auspices of the Information Systems, Electronics and Telecommunication Technologies (Isett) Sector Education and Training Authority, 2 312 candidates completed learnerships in 2007 and 2008, an 80% pass rate,

but with a placement rate of only 30%. Some 1 539 candidates, a 60% pass rate, completed internships in the same period, at a placement rate of 32%.

"Since Isett is unable to provide details of the specific learnerships related to telecoms, it is difficult to comment on whether the low placement ratio of learners is due to the quality of training or whether inappropriate skills were trained," says Burmeister.

"Either way, it is clear that Isett is not providing any significant input to the IT and telecoms sectors in respect of entry-level skills.

"Information on employment in telecoms is hard to come by, since it is not tracked separately in the official statistics, and the Landelahni survey has, of necessity, been compiled from the available data.

"Given the economic importance of IT and telecoms, it is hard to believe that, as a country, we are unable to determine employment numbers in the sector. How are we to determine the skills and education requirements that will allow us to be competitive as a nation if we are unable to measure the growth in skilled and professional employment in these key areas?" she avers.

The skills challenge in the telecoms sector was exacerbated by technology convergence and the sharing of the pipeline across the broad IT sector, as well as the skills requirements of other industries – since technology is the platform that underpinned all businesses.

"The lack of formal career pathing, limited bursary programmes in IT and telecoms engineering degrees and the increasing mobility of ICT skills around the globe add to the problem.

"International exposure and skills exchanges should be part of a broader exposure and retention strategy for managers and skilled professionals.

"The skills challenge is not over and will continue to be a challenge for the next ten years, at least, since many South African and other African telecoms infrastructure projects will need to be rolled out, maintained or upgraded," she added.